



# Implementation Strategy For The Clean Air Act Amendments Of 1990

## Update, November 1995

### Overview

This is the sixth in the series of Implementation Strategies published since the passage of the 1990 Clean Air Act Amendments. As such it provides a good overview of the regulatory framework envisioned by the Amendments, and a clear sense of what has been accomplished, and what is left to do. Since it is being completed as we approach the fifth anniversary of the 1990 Amendments, and the twenty-fifth anniversary of the 1970 Act, its release also presents an appropriate opportunity for a review of overall progress toward our central goal: clean, healthy air.

Since 1970, the traditional drivers behind air quality problems have continually increased. U.S. GDP has grown by 77%, U. S. population has grown by 25%, and the number of miles traveled by on-road vehicles (VMT) has increased by 111%. Behind these statistics are more factories, more power needs, more people, more cars. More than any set of statistics, these ever increasing pressures make clear the need for effective air pollution policies. Without them, the nation would be overwhelmed with dangerous, unsustainable levels of air pollution.

Because of effective air pollution policies however, during this same time period we have been able to achieve a 24% reduction in air pollution. In other words, as a nation we have not just held our own, we have been able to substantially improve air quality across the country. As a result, our air is generally cleaner and healthier than at any time since EPA began measuring air quality.

Yet in the best year, more than fifty million Americans—one in five—still remain exposed each year to unhealthy levels of air pollution. In the worst years that number may be one in three. And many of these Americans are terribly sensitive to the effects of air pollution—because they are children, because they are old, or because of respiratory or heart disease. Millions of acres of forests, croplands, and watersheds are still being harmed by acid rain; communities still suffer from multiple exposures from toxic releases; and increased radiation from the thinning stratospheric ozone layer continues to cause increase in skin cancers and cataracts.

For all these reasons, the focus of the 1990 Amendments has not just been to sustain the historic progress, but instead to finally keep the underlying promise of each set of Clean Air Act Amendments: clean, healthy air for all Americans. The last five years have seen real steps toward keeping that promise, though there is still much work left to do. The next few paragraphs provide a brief review of those efforts.

### Urban Air Quality

- Since the Clean Air Act Amendments of 1990 were signed into law, an unprecedented number of cities have reached the milestone of meeting the health based air quality standards. For example, of the 98 areas of the country that were designated as nonattainment for ground-level ozone in 1990, 55 of those areas now have "clean" air and 22 have been formally redesignated to attainment. Of the 42 carbon monoxide nonattainment areas from 1990, 32 now have "clean" air, and another seven areas have been formally redesignated to attainment. This progress can be attributed to a combination of influences: strong, health based standards, and a working partnership between state, federal and local governments to achieve those standards; an ongoing commitment on the part of many sources to the development of innovative strategies for the reduction of air pollution; and a strong, continuing public desire for clean air. It is also clear evidence that, for urban America, the Clean Air Act is working.

- A number of these cities have reached attainment ahead of schedule, and though difficult decisions remain for areas with the most difficult air quality problems, urban America has cleaner air than at any time since EPA began measuring air quality.

- As an addition to the arsenal of clean air tools which have made this progress possible, EPA proposed this summer a generic "Open Market Trading Rule" for NOx and VOC's, the primary precursors of ground-level ozone (smog). In

combination with other market-based approaches to pollution control, this approach should help states and sources continue to make progress while holding down emission reduction costs.

- The clear understanding that smog does not respect political boundaries has also led this year to the development of the Ozone Transport Assessment Group (OTAG), a joint EPA/state process intended to develop cost-effective, common-sense regional strategies for the reduction of smog across the mid-west and Northeast. This cooperative venture is a very important development in the national struggle to finally achieve clean air.

## Car, Trucks and Buses

- Tailpipe standards of cars being built today are 25 to 60 percent more stringent than standards for new cars built in 1990. These standards continue a tremendous pattern of progress since the early 1970's, with the result that automobiles today are at least 90% cleaner. With the programs put in place by the Clean Air Act of 1990, the U.S. has the most effective motor vehicle pollution control program in the world.
- Motor vehicle fuels are cleaner burning. Two national programs began in 1992: one required cleaner burning diesel fuel, and the second reduced the evaporation rate of gasoline in hot weather. Also, in the winter of 1992-93, oxygenated fuels programs began during winter months in over 30 cities with carbon monoxide pollution problems. In 1995, cleaner-burning, reformulated gasoline, which reduces smog and exposure to toxic chemicals, was introduced year-round in about 30 percent of the U.S. gasoline supply.
- Diesel-powered urban transit buses being built today release almost 90 percent less particulate emissions than buses in 1990. Smoke belching, smelly buses should be a thing of the past as a result of EPA regulations covering new, as well as rebuilt, buses.
- A ground breaking, joint effort to further reduce emissions from heavy duty engines was also initiated this summer. Cooperation among EPA, the California Air Resources Board, and leading engine manufacturers has been crucial to this program, which is targeted to maintain progress on particulate matter, and cut NO<sub>x</sub> emissions in half by 2004.
- EPA recently proposed the framework for a National Low Emission Vehicle program, as a means of continuing progress on automotive emissions. As the basis for a voluntary agreement between states which need cleaner vehicles to meet the air quality goals of

the CAA, and the automakers which would agree to produce the vehicles, this program would speed the introduction of cleaner vehicles across the country.

- The Agency established first-ever emission requirements for new non-road engines, including construction, farm and lawn and garden equipment. By working closely with all stakeholders before emission standards are set, EPA assured cost effective controls that will not affect the operation of this equipment.
- EPA conducted an active compliance program on motor vehicles. Between 1990 and 1995 almost 8 million cars and trucks were recalled and repaired free of charge by vehicle manufacturers as a direct result of EPA's compliance testing. The identification of emission design problems assures that auto and truck makers meet the stringent emission control requirements put in place by the 1990 amendments.

## Air Toxics Program

- Since 1990 EPA, has completed the development and issuance of a multitude of innovative, technology-based air toxics standards, each designed to protect public health and the environment. These standards focus on pollutants that are known or suspected of causing cancer or other serious health effects, such as birth defects. Over the past five years, EPA has issued 14 pollution standards (affecting 27 industrial categories) for industries such as dry cleaners, petroleum refineries, chemical plants and chromium electroplaters that will eliminate over 2.5 million tons of air toxics and smog-causing volatile organic compounds per year. In addition, EPA has proposed another 6 standards (for 19 industrial categories) to be promulgated over the next several months.
- This progress is due directly to the new common-sense structure for regulation of air toxics which was developed for the 1990 Amendments, and contrasts dramatically with the gridlock and ineffectiveness of the previous twenty years. During that period, litigation, conflict and delay over risk and cost/benefit resulted in the regulation of only seven toxic air pollutants, and millions of these pollutants continued to be released into communities across America.
- As an example of this progress, EPA's final air toxics standard for the Synthetic Organic Chemical Manufacturing Industry (known as the HON rule), which was issued in February 1994, is expected to reduce air toxics emissions more than any other rule that will be issued under the Clean Air Act. The rule was developed in partnership with many groups, including industry, state and local agencies, and

environmental groups. EPA's final rule provides flexibility to industry through market-based compliance options, while yielding extraordinary environmental benefits. EPA's HON rule will reduce air toxics emissions by over half a million tons annually and smog-causing volatile organic compounds by over 1 million tons annually—the equivalent of taking 38 million cars off the road.

## Acid Rain

- The regulatory framework for the ground breaking acid rain provisions (Title VI) of the 1990 Amendments is virtually complete. These provisions will result in the removal of 10,000,000 tons of sulfur dioxide from our skies, a 50% reduction of the emissions from this one pollutant. Final Title IV rules are now in place covering permitting; allowance allocations, trading, and auctions and incentives for energy efficiency and renewable energy; continuous emissions monitoring; NO<sub>x</sub> reductions; industrial opt-ins; and non-compliance penalties.
- All Phase I permits and continuous emission monitoring certifications were completed prior to January 1, 1995 program start-up.
- The SO<sub>2</sub> trading program is successfully operating, with 23 million allowances have been transferred between private parties in more than 660 transactions.
- The result of all this activity is that more than 1.7 million tons of SO<sub>2</sub> have already been reduced from 1990 levels, and the costs of these reductions are dramatically lower than Congress had anticipated.

## Permits Program

- In 1992, EPA issued a national regulation under Title V which established a sweeping new operating permits program for large industrial sources of air pollution. Continuing efforts have since worked to simplify and improve the program, which may be the most significant change embodied in the regulatory framework of the 1990 Amendments. This program is, for the first time, bringing together all of a major source's Clean Air Act requirements into one document—with results ranging from improved compliance, to improved flexibility, to greater and more effective public participation.
- States have made tremendous progress in establishing their own permit programs. To date, submittals have been received from 53 state agencies and 60 local programs, and 34 state and 51 local

programs have been approved or proposed for approval.

## Stratospheric Ozone Depletion

- Since 1990 EPA has promulgated and currently implements a number of flexible regulations under Title VI of the 1990 Clean Air Act Amendments. This section of the Amendments was developed to, as a part of the international effort to slow and eventually stop depletion of the stratospheric ozone layer. Specific highlights of these ongoing efforts include:
  - The development and implementation of a market-based allowance trading system for the production and importation of class I ozone-depleting substances. The program has facilitated trades of 585 million kilograms of these substances since the system's inception.
  - The establishment, through work with a variety of stakeholders, of a broad outreach program to facilitate a smooth transition following the phaseout for owners of auto air conditioners.
  - Continued positive results through negotiations with other Parties to the Montreal Protocol. These negotiations have yielded, among others, an acceleration of the phaseout of most class I substances to 1996 and the listing of methyl bromide as a class I substance. These projects will eliminate over 55,000 tons of Ozone Depleting Substances representing over 25% of 1996 country ODS use.
  - In addition, in cooperation with the National Weather Service and the Centers for Disease Control, established a national reporting system for UV radiation levels. This "UV Index" is available nationally, and through partnerships with key medical community groups like the American Academy of Dermatology, is becoming a regular aspect of weather reporting.

## Grand Canyon Visibility

- EPA is making progress in reducing man-made visibility impairment in wilderness areas and national parks. For example, in 1991 EPA issued a standard to reduce sulfur dioxide emissions from a power plant near the Grand Canyon. This standard has yielded a 300% improvement in the Grand Canyon's visibility problem and represents an important step toward improving air quality and the public's enjoyment of this national park.

## Information Transfer

• Air pollution sources, other governmental entities, and the general public are essential partners in the efforts to improve air quality across the country. In its continuing effort to improve those partnerships, EPA has developed a wide variety of information transfer tools, providing government, industry, Congress, the general public, and States with access to a vast collection of important air pollution data. For example, the Technology Transfer Network (TTN) provides immediate access to a wide range of information on air pollution issues, including Clean Air Act regulations and guidance documents; information on health, risk and exposure data for air pollutants; emissions and monitoring data; small business assistance; and much more. The Technology Transfer Network is accessed over 1000 times a day and users will copy over 500,000 files from the bulletin boards this year alone.

## Looking Ahead

All of these efforts—over the last year, over the last five years, and over the last twenty five years—are part of a national commitment to protect the health and improve the quality of life of all Americans. Over the next few years, the Office of Air and Radiation will continue its part of that national commitment through implementation of the Clean Air Act Amendments of 1990. That means continued

development of effective strategies and standards for the improvement of urban air quality, including the incorporation of the most recent scientific assessments into the setting of standards as we complete reviews of the health based standards for ground level ozone and particulate matter; for the protection of forests, crops, watersheds, and visibility through implementation of the acid rain program and the development of additional visibility protections; for the protection of the stratospheric ozone layer through the continued implementation of Title VI, and through support for development of alternatives to ozone depleting substances; and for the reduction of toxic air emissions through the continued development of standards, and through the continued study of the sources and distribution of persistent pollutants such as mercury and dioxin.

The use of appropriate, innovative, market-based approaches such as the Acid Rain program and the Open Market Trading Rule will continue to be emphasized for each effort. And we will continue to search for ways to build useful, practical partnerships such as the OTAG process and the program to reduce pollution from heavy duty engines.

The potential for success—that is, clean, healthy air for all Americans—seems very strong. And the need for that success is here today as well—just as it was twenty five years ago. The promise of the Clean Air Act still remains for many Americans. If we continue our efforts, that promise can, finally, be kept.

**The Clean Air Act Implementation Strategy \***  
(Revised May 1994)

Date	Title	Activity	Cmpltd	Stat. Deadline
Dec-90	Title I - Nonattainment			
		Issue "Getting Started" letter to Governors	Y	
		States submit request/justification for 5 % classification adjustments	Y	Dec-90
Jan-91		Publish two-year implementation strategy	Y	
	Title I - Nonattainment			
		Publish notice of initial PM-10 moderate nonattainment areas	Y	
		Initiate additional PM-10, SO <sub>2</sub> , lead designation process	Y	
	Title VI - CFCs			
		Listing of depleting substances	Y	Jan-91
Feb-91	Title I - Nonattainment			
		Act on 5% classification adjustment requests	Y	Feb-91
Mar-91	Title I - Nonattainment			
		States submit nonattainment area designations	Y	Mar-91
	Title VI - CFCs			
		Direct final 1991 production limits	Y	
Apr-91	Title I - Nonattainment			
		States submit PM-10 areas unable to attain by 1994	Y	
		States respond to list of PM-10, SO <sub>2</sub> , lead nonattainment areas	Y	
May-91	Title I - Nonattainment			
		Notify States of intent to modify suggested boundaries	Y	May-91
		Convene NE ozone transport commission	Y	May-91
	Title II - Mobile Sources			
		Promulgate gasoline Reid Vapor Pressure regulations	Y	May-91
		Promulgate Tier I car and truck standards	Y	May-91
		Propose reformulated gasoline requirements	Y	
		Propose clean fuels fleet and CA pilot credit programs	Y	
		Propose urban bus regulations	Y	
		Propose emission control diagnostic rule	Y	

\* These dates are subject to change based on new risk assessments, court decisions, and changes in available resources.

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Date	Title	Activity	Compl.	Stat. Deadline
May-91	Title IV - Acid Rain			
		Propose regulations for auctions and sales	Y	
	Title V - Permits			
		Propose State permit regulations	Y	
Jun-91	Title III - Air Toxics			
		Publish draft list of source categories	Y	
		Propose list of high risk pollutants, 90/95% early reductions guidance	Y	Jul-91
		Propose early reductions rulemaking	Y	
Jul-91	Title II - Mobile Sources			
		Propose lead substitute gasoline additives	Y	
	Title VII - Enforcement			
		Propose administrative penalties rules of practice	Y	
Sep-91	Title VI - CFCs			
		Propose CFC phase-out regulations	Y	
		Propose mobile air conditioning recycling regulations	Y	
Oct-91	Title I - Nonattainment			
		Publish VOC and CO emission inventory guidance	Y	
	Title II - Mobile Sources			
		Publish study on non-road engines	Y	Nov-91
Nov-91	Title I - Nonattainment			
		Publish guidance on control cost-effectiveness	Y	Nov-91
		Publish air quality and emission trends report	Y	
		Establish Grand Canyon visibility transport commission	Y	Nov-91
		Propose PM-10 area reclassifications	Y	Jun-91
		Promulgate ozone, CO, PM-10, and lead nonattainment boundaries	Y	Jul-91
	Title III - Air Toxics			
		Propose MACT for dry cleaners (per court order)	Y	
Dec-91	Title I - Nonattainment			
		Propose outer continental shelf rule	Y	

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Date	Title	Activity	Compl.	Stat. Deadline
Dec-91	Title IV - Acid Rain			
		Promulgate regulations for auctions and sales	Y	Nov-91
		Propose allowance trading system	Y	
		Propose acid rain permit program	Y	
		Propose continuous emission monitor requirements	Y	
		Propose excess emissions rules	Y	
		Propose conservation and renewable incentives	Y	
Jan-92	Title V - Permits			
		Publish guidance on State programs to assist small businesses	Y	
	Title VI - CFCs			
		Propose ban on non-essential products	Y	
Feb-92	Title VII - Enforcement			
		Promulgate administrative penalties rules of practice	Y	
Mar-92	Title II - Mobile Sources			
		Promulgate onboard controls regulatory decision	Y	Nov-91
Apr-92	Title I - Nonattainment			
		Publish Title I General Preamble	Y	
		Propose rules for ozone, NO <sub>x</sub> , and VOC monitoring	Y	
	Title II - Mobile Sources			
		Propose rule on reformulated gasoline SNPRM (supplemental notice of proposed rulemaking)	Y	Nov-91
May-92	Title I - Nonattainment			
		Publish guidance on TCM's (transportation control measures)	Y	Nov-91
	Title II - Mobile Sources			
		Promulgate cold temperature CO standards	Y	Nov-91
	Title VI - CFCs			
		Propose CFC labeling regulations	Y	
Jul-92		Revise two-year implementation strategy	Y	

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Date	Title	Activity	Complt.	Stat. Deadline
Jul-92	Title I - Nonattainment			
		States submit SIPs for initial SO <sub>2</sub> nonattainment areas	Y	May-92
	Title II - Mobile Sources			
		Propose enhanced I/M regulation	Y	
	Title III - Air Toxics			
		Publish final list of source categories	Y	Nov-91
	Title IV - Acid Rain			
		Propose list of Phase II utility allowances	Y	Dec-91
	Title V - Permits			
		Promulgate State permit regulations	Y	Nov-91
	Title VI - CFCs			
		Promulgate CFC phase-out regulation	Y	Sept-91
		Promulgate mobile air conditioning recycling regulations	Y	Nov-91
Aug-92	Title I - Nonattainment			
		Promulgate guidance on transportation air quality planning	Y	Aug-91
Sep-92	Title I - Nonattainment			
		Propose additional PM-10 nonattainment areas	Y	
		Propose discretionary sanction rules	Y	
		Promulgate outer continental shelf rules	Y	Nov-91
	Title III - Air Toxics			
		Propose regulatory schedule for all source categories	Y	
Oct-92	Title I - Nonattainment			
		Publish 1991 air quality data and emission trends report	Y	
	Title II - Mobile Sources			
		Promulgate oxygenated fuel credit guideline	Y	Aug-91
	Title III - Air Toxics			
		Propose MACT for hazardous organic chemical manufacturing	Y	
Nov-92	Title I - Nonattainment			
		States submit small business assistance programs	Y	Nov-92



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Date	Title	Activity	Compl.	Stat. Deadline
Nov-92	Title I - Nonattainment			
		Promulgate PM-10 BACM technical guidance	Y	May-92
	Title II - Mobile Sources	Publish Title I NO <sub>x</sub> guidance	Y	
		Promulgate enhanced I/M regulation	Y	Nov-91
	Title IV - Acid Rain			
		Propose NO <sub>x</sub> emission limits for Group 1 utility boilers	Y	
		Publish U.S. - Canada air quality agreement	Y	
Dec-92	Title I - Nonattainment			
		Publish alternative control technology document for VOCs from bakeries	Y	Nov-93
	Title II - Mobile Sources			
		Propose revisions to motor vehicle certification procedures (certification short test)	Y	
	Title III - Air Toxics	Promulgate California pilot credit program	Y	Nov-91
		Propose MACT for coke ovens	Y	
		Promulgate early reductions rulemaking	Y	
	Title VI - CFCs			
		Propose emission reduction program	Y	Jan-92
Jan-93	Title I - Nonattainment			
		Promulgate PM-10 area reclassifications	Y	Dec-91
		Propose transportation conformity criteria	Y	
	Title II - Mobile Sources			
		Promulgate vehicle evaporative emissions regulations	Y	Aug-93
		Promulgate emission control diagnostic rule	Y	May-92
	Title III - Air Toxics	Publish draft mobile source air toxics study	Y	
		Propose list of substances for accidental releases prevention program	Y	
	Title II - Mobile Sources			
		Publish final mobile source related air toxics study	Y	May-92

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Date	Title	Activity	Complt.	Stat. Deadline
<b>Jan-93</b>	<b>Title IV - Acid Rain</b>			
		Promulgate excess emission requirements	Y	May-92
		Promulgate allowance trading system	Y	May-92
		Promulgate continuous emission monitoring requirements	Y	May-92
		Promulgate conservation and renewable incentives	Y	May-92
		Promulgate acid rain permit program	Y	May-92
	<b>Title VI - CFCs</b>			
		Promulgate ban nonessential products - Class I	Y	Nov-91
<b>Feb-93</b>	<b>Title I - Nonattainment</b>			
		Promulgate rules for ozone, NO <sub>x</sub> , VOC enhanced monitoring	Y	May-92
		Propose economic incentive rules	Y	
	<b>Title II - Mobile Sources</b>			
		Propose reformulated gasoline complex model	Y	
	<b>Title IV - Acid Rain</b>			
		Sources submit Phase I permit applications & proposed compliance plans	Y	Feb-93
	<b>Title VI - CFC</b>			
		Promulgate CFC labeling regulations	Y	
	<b>Title VII - Enforcement</b>			
		Propose rules for citizen suits	Y	
<b>Mar-93</b>	<b>Title I - Nonattainment</b>			
		Issue draft 185B report	Y	
		Propose general conformity criteria	Y	
	<b>Title II - Mobile Sources</b>			
		Promulgate procedures of enforcement for urban bus standards	Y	Nov-91
		Promulgate clean fuels fleet (TCM's)	Y	Nov-91
	<b>Title IV - Acid Rain</b>			
		Initiate auctions and sales of allowances	Y	Mar-93
		Promulgate list of Phase II utility allowances	Y	Dec-92
		Ranking by lottery of Phase I extension applications	Y	
		Promulgate small diesel refineries rule	Y	Oct-93

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Date	Title	Activity	Complt.	Stat. Deadline
Mar-93	Title VI - CFCs			
		Propose accelerated CFC phase-out	Y	
Apr-93	Title I - Nonattainment			
		Publish alt control tech document for VOCs from pesticide applications	Y	Nov-93
	Title II - Mobile Sources			
		Publish final mobile source related air toxics study	Y	May-92
		Promulgate urban bus retrofit	Y	Nov-91
		Promulgate urban bus 94+ (PM standard)	Y	May-92
	Title III - Air Toxics			
		Propose guidance for State air toxics program 112(l)	Y	
	Title VI - CFCs			
		Propose procurement regulation	Y	
May-93	Title I - Nonattainment			
		PM-10 PSD increments (11/92 court agreement)	Y	
	Title II - Mobile Sources			
		Propose non-road emission standards >50 hpr.	Y	Nov-92
	Title VI - CFCs			
		Propose safe alternatives	Y	Nov-92
		Promulgate emission reduction program (Section 608)	Y	Jan-92
Jun-93	Title II - Mobile Sources			
		Propose pilot, clean vehicle standards, and opt-in provisions	Y	
		Propose clean fuel fleet vehicle standards, conversions and general provisions	Y	
Jul-93	Title I - Nonattainment			
		Publish 185B NO <sub>x</sub> /VOC study	Y	Feb-92
	Title III - Air Toxics			
		Propose rule on case-by-case MACT determination (112(j))	Y	
	Title IV - Acid Rain			
		Begin submission of appl. for Energy Conservation & Renewable Reserve	Y	
		Draft acid rain permits issued for public comment		

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Date	Title	Activity	Complt.	Stat. Deadline
Aug-93	Title I - Nonattainment			
		States deadline for RACT corrections	Y	
		Report to Congress: Transportation/Air Quality	Y	Jan-93
	Title III - Air Toxics			
		Propose general provisions for MACT standards	Y	
		Propose MACT for industrial cooling towers	Y	
		Section 112(s) Report	Y	
Sep-93	Title III - Air Toxics			
		Promulgate MACT for dry cleaners	Y	Nov-92
	Title IV - Acid Rain			
		Propose opt-in regulations -- combustion sources	Y	
	Title VI - CFCs			
		Propose Class II Non-essential ban	Y	Nov-91
Oct-93	Title III - Air Toxics			
		Propose certification program for solid waste & fossil-fuel combustor operators	Y	
		Propose rules for risk management plans and prevention programs	Y	
		Publish study of hydrogen sulfide emissions from extracting natural gas and oil	Y	Nov-92
		Promulgate MACT for coke ovens	Y	Dec-92
		Develop inspection manual and training materials for coke ovens	Y	Nov-93
	Title VI - CFCs			
		Promulgate procurement regulation	Y	May-92
Nov-93	Title I - Nonattainment			
		Publish air quality and emission trends report	Y	
		Publish SOCMI distillation processes CTG	Y	Nov-93
		Publish SOCMI reactor processes CTG	Y	Nov-93
		Promulgate general conformity criteria	Y	Nov-91
		Publish final guidance for state air toxics programs	Y	Nov-91
		Issue regulatory schedule for all source categories	Y	Nov-92
	Title II - Mobile Sources			
		Propose detergent additive regulations	Y	

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Date	Title	Activity	Compl.	Stat. Deadline
<b>Nov-93</b>	Title II - Mobile Sources			
		Promulgate transportation conformity rules	Y	
	Title III - Air Toxics			
		Publish guidance for state air toxics programs 112(l)	Y	Nov-91
		Propose MACT for chromium electroplating	Y	
		Promulgate regulatory schedule for all source categories	Y	Nov-92
		Propose degreasing MACT	Y	
		Complete study of the hazards of hydrofluoric acid	Y	Nov-92
		Propose permits for early reduction sources	Y	
	Title IV - Acid Rain			
		States submit acid rain permit program proposals	Y	Nov-93
		Phase I requirement to install monitoring equipment	Y	
		Certify continuous emission monitors for Phase I units		
<b>Dec-93</b>	Title I - Nonattainment			
		Promulgate discretionary sanctions rule	Y	
		Promulgate additional PM-10 and SO <sub>2</sub> nonattainment areas	Y	
	Title II - Mobile Sources			
		Promulgate reformulated gasoline regulations	Y	
		Promulgate clean fuel fleet, vehicle stds. conversions, and general provisions	Y	
	Title III - Air Toxics			
		List of high risk pollutants, 90/95% early reductions	Y	
		Propose MACT for pulp and paper	Y	
	Title VI - CFCs			
		Promulgate accelerated CFC phase-out	Y	
		Promulgate Class II Non-essential Ban	Y	Nov-91
<b>Jan-94</b>	Title I - Nonattainment			
		Approve/disapprove ozone & CO submittals due 11/92	Y	<b>Jan-94</b>
		Publish storage tanks ACT	Y	Jan-94
		Promulgate list of substances for accidental releases prevention program	Y	Nov-92
		Deliver program-specialized inspection training course at three regional locations (radionuclides)	Y	

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Date	Title	Activity	Complt.	Stat. Deadline
Jan-94	Title III - Air Toxics			
		Propose Stage I gasoline marketing MACT	Y	
	Title V - Permits			
		States submit operating permit programs	Y	Nov-93
Feb-94	Title I - Nonattainment			
		Propose SOCM batch processes ACT	Y	Nov-93
		Publish plastic parts coating ACT	Y	Nov-93
	Title III - Air Toxics			
		Propose MACT for commercial sterilizers	Y	
		Promulgate general provisions for MACT standards	Y	
		Promulgate MACT for hazardous organic chemical manufacturing	Y	Nov-92
Mar-94	Title I - Nonattainment			
		Promulgate economic incentives rules	Y	Nov-92
	Title II - Mobile Sources			
		Promulgate revisions to motor vehicle certification procedures (I/M short test)	Y	Nov-91
	Title III - Air Toxics			
		Propose MACT for magnetic tape coating	Y	
	Title IV - Acid Rain			
		Conduct second allowance auction	Y	Mar-94
		Promulgate NOx emission limits for Group 1 utility boilers	Y	May-92
		Initiate operation of allowance tracking system	Y	
		Propose revision to Phase I substitution & compensating unit provisions	Y	
	Title VI - CFCs			
		Promulgate safe alternative program	Y	
Apr-94	Title I - Nonattainment			
		Propose marine vessels rule	Y	
		Promulgate economic incentive rule	Y	
	Title II - Mobile Sources			
		Propose on-board refueling vapor recovery regulations	Y	

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Date	Title	Activity	Complt.	Stat. Deadline
<b>Apr-94</b>	Title III - Air Toxics			
		Propose MACT for polymers and resins II	Y	Nov-94
		Promulgate case-by-case MACT determinations 112(j)	Y	
<b>May-94</b>	Title I Nonattainment			
		Publish petroleum/industrial wastewater ACT	Y	Nov-93
		Publish auto body refinishing ACT	Y	
		Publish clean-up solvents ACT		
	Title II - Mobile Sources			
		Promulgate California pilot, clean vehicles standards, and opt-in provisions	Y	
		Promulgate fuel and fuel additives: Health effects registration requirements	Y	
		Propose non-road emission standards <25 HP - Phase I	Y	
	Title III - Air Toxics			
		Publish draft risk assessment and management emission report	Y	May-94
		Propose MACT for secondary lead smelters	Y	
	Title III - Air Toxics			
		Report to Congress: Deposition of Air Pollutants to Great Waters	Y	Nov-93
		Interim Report on Electric Utility Steam Generators	Y	
		Propose MACT standard for aerospace industry	Y	
	Title IV - Acid Rain			
		Begin issuing allowances to small diesel refineries	Y	
		Receive quarterly emissions reports from utilities	Y	
	Title VII - Enforcement			
		Propose rules for field citation	Y	
		Propose rule for monetary awards	Y	
<b>Jun-94</b>	Title I - Nonattainment			
		Publish Web offset lithography ACT	Y	
	Title II - Mobile Sources			
		Promulgate non-road emission standards for >50 HP diesel engines	Y	

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Date	Title	Activity	Complt.	Stat. Deadline
Jun-94	Title III - Air Toxics			
		Propose MACT for Petroleum refineries	Y	
		Submit NAS study to Congress	Y	May-93
Jul-94	Title I - Nonattainment			
		Promulgate Order of Sanctions rule	Y	Apr-93
		Promulgate CO NAAQS Review	Y	
		Approve/dissapprove lead SIPs due 6/93	Y	
		States implement Phase II of the enhanced ozone monitoring network	Y	
	Title II - Mobile Sources			
		Promulgate reformulated and conventional gasoline regulations (Direct final)	Y	
	Title III - Air Toxics			
		Promulgate MACT standard for industrial cooling towers	Y	
	Title IV - Acid Rain			
		EPA action on final Phase I permits	Y	Aug-93
Aug-94	Title I - Nonattainment			
		States submit PM-10 SIPs	Y	Nov-91
		Propose NSPS for cold cleaners	Y	
		Propose NSPS for SOCMII secondary wastewater	Y	
		Propose NSPS for starch manufacturing	Y	
	Title II - Mobile Sources			
		Promulgate rule for renewable oxygenates for reformulated gasoline	Y	
	Title III - Air Toxics			
		Propose Indian Tribes: Air Quality Planning rule	Y	Apr-92
	Title IV - Acid Rain			
		Promulgate revision to Phase I substitution & compensating unit provisions	Y	
Sep-94	Title I - Nonattainment			
		Publish ACT documents for NOx sources	Y	Nov-93
	Title II - Mobile Sources			
		Promulgate CNG/LPG vehicle standards	Y	



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Date	Title	Activity	Complt.	Stat. Deadline
<b>Sep-94</b>	Title III - Air Toxics			
		Promulgate certification program for solid waste and fossil-fuel combustor	Y	
		Develop inspection manual and training materials for dry cleaners	Y	
		Propose standards for large MWC's	Y	Nov-91
		Propose standards for small MWC's	Y	Nov-92
	Title VII - Enforcement			
		Propose rules for contractor listing		
<b>Oct-94</b>	Title I - Nonattainment			
		States submit RACT catch-up rules, NSR rules, CO attainment demonstration	Y	Nov-92
		Publish air quality and emission trends report	Y	
	Title II - Mobile Sources			
		Report to Congress: Status of CA low-emissions vehicle program		Jun-94
		Propose non-road emission standards for marine engines	Y	
	Title VI - CFCs			
		Report to Congress: Production/consumption of ozone depleting chem.	Y	Nov-93
		Listing of global warming potential	Y	
<b>Nov-94</b>	Title I - Nonattainment			
		Propose SO <sub>2</sub> NAAQS Review	Y	
	Title II - Mobile Sources			Nov-91
		Propose locomotive emissions standards		Nov-95
		Promulgate stds for deposit control gasoline additives	Y	
	Title III - Air Toxics			
		Propose MACT for off-site waste and recovery operations	Y	
		Promulgate permits for early reduction sources	Y	
		Promulgate MACT for chromium electroplating operations	Y	Nov-92
		Report to Congress: Risk assessment and management commission	Y	Nov-94
		Promulgate MACT for commercial sterilizers	Y	
		Promulgate degreasing MACT standard	Y	Nov-94
		Promulgate Stage I gasoline marketing MACT	Y	Nov-94
		Promulgate MACT for magnetic tape coatings	Y	Nov-94

# The Clean Air Act Implementation Strategy (Revised May 1994)

Date	Title	Activity	Complt.	Stat. Deadline
Nov-94	Title III - Air Toxics			
		Propose MACT for wood furniture	Y	
		Propose MACT for shipbuilding (surface coating)	Y	
	Title IV - Acid Rain			
		Promulgate EPA Action on Phase I NOx permits	Y	Aug-93
		Promulgate revision to Phase I substitution & compensating unit revisions	Y	
Dec-94	Title II - Mobile Sources			
		Promulgate detergent additive regulations - Interim requirements	Y	Nov-92
Jan-95	Title I - Nonattainment			
		Report to Congress: Ozone design value study	Y	Nov-93
	Title II - Mobile Sources			
		Report to Congress: Potential health implications of Magnetic Levitation & high speed rail technologies	Y	
	Title III - Air Toxics			
		Promulgate Waiver rule (Interim Final)	Y	
	Title IV - Acid Rain			
		Publish industrial SO <sub>2</sub> emission report	Y	
		Phase II requirement to install monitoring equipment	Y	Jan-95
Feb-95	Title I - Nonattainment			
		Propose SO <sub>2</sub> NAAQS implementation	Y	
		Promulgate interim final conformity amendments (1st set)	Y	
	Title II - Mobile Sources			
		Propose revision for Federal test procedures	Y	
		Propose mobile source air toxics regulation		May-95
	Title III - Air Toxics			
		Promulgate MACT for polymers and resins II	Y	Nov-94
		Propose medical waste incinerator rule	Y	
	Title IV - Acid Rain			
		Publish draft acid deposition standards study	Y	Nov-93

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Date	Title	Activity	Complt.	Stat. Deadline
<b>Feb-95</b>	Title VI - CFCs			
		Promulgate CFC labeling regulations	Y	
<b>Mar-95</b>	Title I - Nonattainment			
		Report to Congress: VOC emissions from use of consumer & commercial products	Y	
	Title III - Air Toxics			Nov-93
		Propose MACT for printing/publishing industry	Y	
		Propose MACT for polymers and resins IV <sup>1</sup>	Y	Nov-94
		Propose MACT for polymers and resins IV <sup>2</sup>	Y	Nov-94
	Title IV - Acid Rain			
		Conduct allowance auction	Y	Mar-95
	Title V - Permits			
		Propose Federal operating permit regulations	Y	
<b>Apr-95</b>	Title IV - Acid Rain			
		Promulgate Opt-In Regulation - Combustion Sources	Y	May-92
<b>May-95</b>	Title II - Mobile Sources			
		Promulgate non-road emission standards for <25 HP SI engines - Phase I	Y	
		Promulgate Federal test procedures		May-92
	Title III - Air Toxics			
		Promulgate MACT for secondary lead smelters	Y	Nov-94
		Issue urban area strategy - research report	Y	Nov-93
		Propose MACT for polymers and resins I	Y	
<b>Jun-95</b>	Title I - Nonattainment			
		Final revision to definition of VOC - Acetone Exemption	Y	

<sup>1</sup> Methyl Methacrylate-Butadiene-Styrene Terpolymers Production  
Polyethylene Terephthalate Production  
Styrene-Acrylonitrile Production

<sup>2</sup> Acrylonitrile-Butadiene-Styrene (ABS) Production  
Methyl Methacrylate-Acrylonitrile-Butadiene-Styrene (ABS) Production  
Polystyrene Production

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Date	Title	Activity	Complt.	Stat. Deadline
Jun-95	Title II - Mobile Sources			
		Promulgate deposit control gasoline detergents		
		Propose procedures to opt-out of reformulated gasoline program	Y	
Jul-95	Title I - Nonattainment			
		Promulgate marine vessel rule	Y	
		Propose open market trading rule	Y	
		Promulgate final conformity amendments (First set)	Y	
		Propose conformity amendments (Second set)	Y	
	Title II - Mobile Sources			
		Report to Congress: Compliance with NOx requirements of transportation	Y	
	Title III - Air Toxics			
		Promulgate MACT for aerospace industry	Y	
		Promulgate MACT for petroleum refineries	Y	Nov-94
Aug-95	Title II - Mobile Sources			
		Ozone Transporation Comission-Emission vehicle program for 49 states	Y	
	Title III - Air Toxics			
		Develop inspection manual and training materials for Stage I vapor recovery		
		Develop inspection manual & training materials for industrial cooling towers		
Sep-95	Title II - Mobile Sources			
		Propose modifications to RFG oxygen cap		
Oct-95	Title I - Nonattainment			
		Publish air quality and emission trends report	Y	
		Propose NO <sub>2</sub> NAAQS review	Y	
		Final revision to definition of VOC - Perc Exemption	Y	
		Report to Congress: National annual industrial SO <sub>2</sub> emission trends	Y	
	Title III - Air Toxics			
		Promulgate standards for large MWCs		Nov-92
		Promulgate standards for small MWCs		Nov-92

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Date	Title	Activity	Complt.	Stat. Deadline
Oct-95	Title IV - Acid Rain			
		Report to Congress: Acid Deposition Standard Feasibility Study		
Nov-95	Title I - Nonattainment			
		Final decision on NSPS for cold cleaners		
		Final decision on NSPS for starch manufacturing		
		Propose architectural/industrial maintenance coating rule		
		Propose consumer products VOC rule		
		Promulgate conformity amendments (Second set)		
	Title II - Mobile Sources			
		Promulgate locomotive emission standards		Nov-95
	Title III - Air Toxics			
		Promulgate MACT for wood furniture		Nov-94
		Promulgate MACT for shipbuilding (surface coatings)		Nov-94
		Propose MACT for wood treatment		
	Title VIII - Miscellaneous			
		Issue draft 812 Retrospective Study		
Dec-95	Title I - Nonattainment			
		Propose NSR reform rule		
		Promulgate NSPS for landfills		
		Propose conformity amendment (Third set)		
	Title III - Air Toxics			
		Submit mercury study to Congress		Dec-94
	Title IV - Acid Rain			
		Propose revised Group 1 Phase II NOx emissions standards		
	Title VI - CFCs			
		Propose regulations requiring recycling of HFCs		
	Title VII - Enforcement			
		Repropose rules for compliance assurance monitoring	Y	
		Promulgate rule for contractor listing		

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Date	Title	Activity	Complt.	Stat. Deadline
Jan-96	Title I - Nonattainment			
		Propose Part C & D new source review requirements		
		Propose automobile refinishing VOC national rule		
		Report to Congress: Transportation/Air Quality		Jan-96
	Title II - Mobile Sources			
		Promulgate opt-out procedures for reformulated gasoline		
		Promulgate banning of leaded gasoline for motor vehicles		
	Title III - Air Toxics			
		Publish update to Section 112(s) report		Jan-96
		Study of electric utilities generating units		Nov-93
	Title IV - Acid Rain			
		Publish 1994 utility emissions report		
		Propose NOx NSPS revisions for new fossil fuel fired boilers (utility & nonutility)		Jan-93
		Propose emission stds for nonroad recreational vehicles & revision of on-highway motorcycle emission standards		
	Title III - Air Toxics			
		Promulgate MACT for off-site waste and recovery operations		Nov-94
		Propose MACT for mineral wool		
		Propose MACT for publicly owned treatment works		
		Propose MACT for primary copper		
Mar-96	Title I - Nonattainment			
		Publish wood furniture CTG		Nov-93
		Publish shipbuilding CTG		
		Promulgate NSPS for SOCMII secondary wastewater		
		Publish surface coal mining study		Nov-93
		Promulgate architectural/industrial maintenance coating rule		
	Title II - Mobile Sources			
		Promulgate stds for gasoline detergent additives		

## The Clean Air Act Implementation Strategy (Revised May 1994)

Date	Title	Activity	Complt.	Stat. Deadline
Mar-96	Title III - Air Toxics			
		Promulgate MACT for printing/publishing industry		Nov-94
		Promulgate MACT for polymers and resins IV <sup>1</sup>		Nov-94
		Promulgate MACT for pulp and paper		Nov-97
		Promulgate rules for risk management plans and prevention		Nov-93
		Publish aerospace CTG		
		Propose MACT for steel pickling		
		Propose MACT for primary Aluminum		
		Propose MACT for Portland Cement		
	Title IV - Acid Rain			
		Conduct allowance auction		
	Title VIII - Miscellaneous			
		Report to Congress: Competitiveness impact of CAAA (Section 811)		May-92
Apr-96	Title I - Nonattainment			
		Promulgate SO <sub>2</sub> NAAQS Review implementation		
		Promulgate open market trading rule		
	Title II - Mobile Sources			
		Propose Phase II standards for small gasoline engines		
	Title III - Air Toxics			
		Promulgate medical waste incineration standards		Nov-94
		Promulgate MACT for polymers and resins IV <sup>2</sup>		Nov-94
		Propose MACT for oil & natural gas production		
		Promulgate SO <sub>2</sub> NAAQS Review		
	Title VI - CFCs			
		Promulgate regulations requiring recycling of HFCs		
	Title VII - Enforcement			
		Promulgate guidance/rule for field citations		
	Title II - Mobile Sources			
		Promulgate conformity amendments (Third set)		
		Promulgate non-road emission standards for marine engines		May-92

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Date	Title	Activity	Complt.	Stat. Deadline
May-96	Title III - Air Toxics			
		Propose MACT commercial/industrial solid waste incinerators		Nov-93
		Promulgate MACT for polymers and resins I		Nov-94
		Propose IC Engine NESHAP & NSPS		
		Propose MACT for ferroalloys		
		Propose MACT for flexible polyurethane foam production		
		Propose MACT for phosphoric acid/phosphate fertilizers		
Jun-96	Title I - Nonattainment			
		Propose ozone NAAQS review		
		Propose PM10 NAAQS review		
	Title III - Air Toxics			
		Propose MACT for secondary Aluminum		
		Propose MACT for wool fiberglass		
		Second Report to Congress: Deposition of Air Pollutants to Great Waters		Nov-95
	Title VII - Enforcement			
		Promulgate rules for citizen suits		
	Title IX - Clean Air Research			
		Study on international air pollution control technology		
Jul-96	Title III - Air Toxics			
		Promulgate consolidated Federal air rule		
	Title V - Permits			
		Promulgate revisions to the operating permits program		
	Title VII - Enforcement			
		Promulgate rules for compliance assurance monitoring		Nov-92
Aug-96	Title III - Air Toxics			
		Propose MACT for baker's yeast manufacturing		
Sep-96	Title II - Mobile Sources			
		Propose emission stds for Ethanol-fueled vehicles and engines		
	Title III - Air Toxics			
		Propose MACT for polymers and resins III		



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Date	Title	Activity	Complt.	Stat. Deadline
Sep-96	Title III - Air Toxics			
		Propose MACT for pharmaceutical production		
		Develop inspection/training materials for medical waste incinerators		
Oct-96	Title I - Nonattainment			
		NO <sub>2</sub> NAAQS review		
		Publish 1995 air quality & emission trends report		
Nov-96	Title II - Mobile Sources			
		Determination to undertake rulemaking on emissions from engines		
	Title III - Air Toxics			
		Promulgate MACT for wood treatment		Nov-97
		Propose MACT for agricultural chemical production		
		Propose MACT for acrylic/monodacrylic fibers		
		Propose MACT for chlorine production		
		Propose MACT for petroleum refineries: Catalytic cracking/reforming units & sulfur plant units		
		Propose MACT for polycarbonates production		
		Propose MACT for reinforced composites production		
		Propose MACT for polyether polyols production		
	Title VII - Enforcement			
		Promulgate rules for monetary awards		
Dec-96	Title I - Nonattainment			
		Promulgate NSR reform rule		
	Title IV - Acid Rain			
		Promulgate NOx NSPS revisions new fossil fuel fired boilers (utility & nonutility)		Jan-93
Jan-97	Title I - Nonattainment			
		Promulgate PM10 NAAQS Review		
Feb-97	Title I - Nonattainment			
		Promulgate Part C & D new source requirements		
	Title IV - Acid Rain			
		Propose Group II limits for NOx emissions		

## The Clean Air Act Implementation Strategy (Revised May 1994)

Date	Title	Activity	Complt.	Stat. Deadline
Feb-97	Title III - Air Toxics			
		Promulgate MACT for primary copper		Nov-97
Mar-97	Title III - Air Toxics			
		Promulgate MACT for publicly owned treatment works		Nov-97
		Promulgate MACT for steel pickling		Nov-97
		Promulgate industrial/commercial incinerators rule		
Apr-97	Title II - Mobile Sources			
		Promulgate Phase II standards for small gasoline engines		
	Title III - Air Toxics			
		Promulgate MACT for oil & natural gas production		Nov-97
		Promulgate MACT for mineral wool		Nov-97
May-97	Title III - Air Toxics			
		Promulgate MACT for phosphoric acid/phosphate fertilizers		
		Promulgate IC engine NESHAP & NSPS		Nov-97
Jun-97	Title I - Nonattainment			
		Promulgate ozone NAAQS review		
		Propose integrated PM/ozone NAAQS & Regional haze implementaion strategy		
	Title III - Air Toxics			
		Promulgate MACT for secondary Aluminum		Nov-97
		Promulgate MACT for wool fiberglass		Nov-97
Aug-97	Title III - Air Toxics			
		Promulgate MACT for baker's yeast manufacturing		Nov-2000
Sep-97	Title II - Mobile Sources			
		Promulgate emission stds for Ethanol fueled vehicles and engines		
Oct-97	Title I - Nonattainment			
		Publish 1996 air quality & emission trends report		
Nov-97	Title III - Air Toxics			
		Promulgate MACT for phosphoric acid/phosphate fertilizers		

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